Art. XVII.—*Lord Howe Island Polyzoa.*

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(With Plates XVIII., XIX.).

[Read 14th October, 1904].

I have lately completed the examination of some seventy mounted slides of Polyzoa and numerous fragments of shell and coral with adherent encrusting species on them, which were entrusted to me for that purpose by the Rev. Dr. Porter, of Petersham, New South Wales, who collected them at Lord Howe Island. Lat.: 31°. 30′ S; Long.: 159°. 10′E.

As might be expected, the majority of the species represented in the collection were "Australian," but there were some new species among them.

The following is the list of Australian species found on the Island.

Scrupocellaria cervicornis, Busk.
Tubucellaria cereoides, Ellis and Solander
Beania costata, Busk.
Membranipora membranacea, Linn. sp.
Amphiblestrum spinosum, Quoy and Gaimard sp.
Thalamoporella rosieri, var. falcifera, Hincks.
Cribrilina radiata, Moll. sp.
Schizoporella hyalina, Linn. sp.
„ pachnoides, McG.
„ biturrita, Hincks.
„ cecilii, Audouin sp.
Hippothoa distans, McG.
Smittia trispinosa, Johnston sp.

Two of the specimens of Thalamoporella rosieri var. falcifera, bore ooecia which have not been described. I give an illustration (Fig. 1) showing two of them. They are globular, with a median ridge above the aperture; the operculum is triangular with an acute apex. The other species do not need any comment, except Smittia trispinosa. This is a very variable species: the form from Lord Howe Island is very close to variety "bimucronata," Hincks, which is recorded for Victoria

and to variety "munita," Hincks, which Mr. Waters records from Port Phillip Heads and Green Point, New South Wales, but there is not sufficient difference to warrant its being considered a distinct variety. It is apparently very common there, for there were over a dozen specimens among the slides, and all the fragments of shells, etc., with the exception of three, were encrusted with it.

The new species are:—

Thalamoporella howensis, nov. sp. (Pl. Fig. 2).

Zoaria encrusting. Zooecia elongated, sub-hexangular, with distal margin generally rounded. Surface coarsely granulated or perforated, except a space below the proximal margin of the thyrostome. Margins raised and finely crenate. Thyrostome (opesia?) very large, arched above, irregular below, with a shallow depression at each side and underneath it, in the centre, an internal plate.

A single specimen. This is a very puzzling form; it seems to be intermediate between Steganoporella and Thalamoporella. The general appearance is that of the latter, but the projecting plate under the cryptocyst (?) shows that the structure is very similar to that of Steganoporella; the plate possibly represents the bottom of the "tube" which is present in that genus, and if, as possibly may be the case (as it is not in perfect condition), it had when alive a membranous covering, it would certainly be relegated to that genus.

Schizoporella gibberula, nov. sp. (Pl. Fig. 3).

Zoarium encrusting. Zooecia ovoid, ventricose; surface covered with small tubercles which are connected with each other by an irregular network of narrow raised lines. Thyrostome large, orbicular, with a rounded sinus. An avicularium with a pointed mandible on a large raised elevation on one side. Ooecia globose, subimmersed; surface perforated. This somewhat resembles S. cecilii in appearance, but the shape of the thyrostome is different; the sinus is rounded and shallow, and there is an avicularium on a large umbo on one

side, not always on the same side, and which is not always present; one specimen showed only two or three avicularia, and these had longer mandibles than the type, and the umbos were smaller.

Schizoporella heteromorpha, nov. sp. (Pl. Figs. 4-6).

Adult zooecia indistinct, covered with large tubercles, more or less confluent, some of which project over the thyrostome completely concealing its form, a row of perforations down each side of the zooecium indicating its limits. Some of the tubercles bear pointed avicularia on the summit. The young zooecia are ovoid in shape, ventricose; surface with a few rounded granulations; a row of pores round the lateral margins. Thyrostome transversely elliptical, with a broad sinus in the proximal margin. Ooecia small subglobular, surface sometimes entire but generally composed of large, more or less confluent tubercles.

This is a very variable species. It is only in the young cells that the thyrostome is visible. One is shown at Fig. 4. In older zooecia the tubercles are crowded, and sometimes the rows of marginal pores are very clearly seen, more so than in that one shown in Fig. 5, which is taken from the same fragment as Fig. 4. The oldest form of zooecia is shown in Fig. 6, which also bears ooecia: the tubercles in several places are surmounted with pointed avicularia and the marginal pores are very irregular, only occasionally indicating the margin of the zooecia It would require a great many figures to show all the variations which occur in this species. In the collection sent to me by Dr. Porter there were nineteen mounted specimens, and they were so variable that I at first thought there were several species. Figs. 4 and 5 are taken from the same specimen, from which it will be seen that the variation in a single specimen is very great; there are intermediate forms also in it. In some of the specimens, although the surface was crowded with tubercles, yet the row of marginal pores were almost as regular as in the young zooecia; in others they were not so regular, and, as shown in Fig. 6, they are sometimes very irregular, owing to their being overgrown with tubercles; but they were

always more or less visible, and their presence, together with the tubercular surface, showed that, notwithstanding all these variations, they must be considered as belonging to the same species.

Schismopora cucullata, nov. sp.. (Pl. XXIX., Figs. 7, 8).

Adult zooecia globular, subimmersed, irregularly arranged; surface granular. Thyrostome arched above, straight below, with a rounded sinus in the lower margin; large triangular avicularia situated upon large globular bases scattered over the zoarium. The marginal (young) zooecia are decumbent; they have four long thin spines on the distal margin. The thyrostomes of some have a small mucro on the proximal margin, which probably carries a small avicularium; this disappears in the adult form. Ooecia immersed with a hoodlike structure above, the aperture of the same shape as that of the zooecia, but smaller. The zooecia in the older portion of the zoarium are very crowded and irregularly disposed; the hoodlike structure of the ooecia is very peculiar.

Mucronella centrota, nov. sp. (Pl. XXIX., Fig. 9).

Zoarium encrusting. Zooecia elongated, but indistinct; covered with mamilliform tubercles, which in the median line rise up so as to form a ridge. Peristome raised with a long thick spinous projection on each side with two small spines on the distal margin between them; proximal margin very irregularly serrate.

I place this in Mucronella because it is something like M. ellerii in appearance, but the form of the thyrostome is not visible in the specimen, so that its position is somewhat doubtful.

Crisia howensis, nov. sp. (Pl. XXIX., Figs. 10, 11).

Zoaria branching; from three to seven zooecia is an internode. Cells minutely and sparsely punctured, elongated and produced, with a tubular orifice. A long articulated and jointed spine on one side of the zooecial tube. Ooecia ovoid, densely punctured, orifice not visible.

This resembles C. setosa in having a spine growing from the side of the tubular orifice, but the zooecia are very much more elongated and exserted ; the spine is not always present.

Crisia cuneata, nov. sp. (Pl. XXIX., Fig. 12).

Zoaria branching, from twelve to twenty zooecia in an internode. Zooecia very much exserted: the whole surface finely punctured. Ooecia free, obconical, closely punctate ; compressed laterally with a flattened distal end on which is an oval aperture. This is a very distinct form.

Specimens of Thalamoporella rosieri var. falcifera and of the new species I have, with Dr. Porter's kind permission, mounted for presentation to the National Museum, Melbourne.

EXPLANATION OF PLATES XXVIII. AND XXIX.

Fig. 1.—Thalamoporella rosieri, var. falcifera.
2.—Thalamoporella howensis.
3.—Schizoporella gibberula.
4.—Schizoporella heteromorpha (young).
5.—Schizoporella heteromorpha.
6.—Schizoporella heteromorpha (ooecia).
7.—Schismopora cucullata (young).
8.—Schismopora cucullata (ooecia).
9.—Mucronella centrota.
10.—Crisia howensis.
11.—Crisia howensis (ooecia).
12.—Crisia cuneata.
Figs. 1, 10, 11 and 12. × 25.
Figs. 2, 3, 4, 5, 6, 7, 8 and 9. × 30.

ERRATA.

Page 386, line 3, *for* xviii., xix., *read* xxviii., xxix.
Page 387, line 10, *after* Pl. *insert* xxviii.
Page 387, line 27, *after* Pl. *insert* xxviii.
Page 388, line 5, *after* Pl. *insert* xxviii.